

BACTERIOLOGICAL NEWS

Society of American Bacteriologists

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OFFICE OF THE
SECRETARY

DEPARTMENT OF BACTERIOLOGY
UNIVERSITY OF WISCONSIN
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1958 OFFICERS AND COUNCILORS

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Immunology and Comparative Pathology; S. E. Hartsell, Chairman of the Division of Agricultural and Industrial Bacteriology; R. D. DeMoss, Chairman of the Division of Bacterial Physiology.

FROM THE SECRETARY'S OFFICE

Have you noticed how much smaller this issue is than the monster you received in August? The November number is always like that. It is written in September after a summer in which little worth reporting seems to happen. Local branches don't meet. School activity is at a minimum. And, judging from the Stockholm Congress, a good share of our members were in Europe.

There's one benefit to a small issue. It costs you less (but not much) than a large one. If we look at costs per page, however, the small issues are much more expensive because of the high proportion of relatively fixed costs (e.g. postage, envelopes, labor of assembling, addressing, etc.) which are a function more of number of copies rather than of size.

To reduce the per page cost of this issue, therefore, your Secretary decided to discuss briefly a couple of items you ought to be thinking about over the winter. These will be considered by the Council and, most likely, at the Business Meeting when we meet in St. Louis next May. They are matters that should not be taken lightly because they are of fundamental importance to our Society.

After reading his August issue of the *News* one of the members wrote your Secretary: "Is the Society to be an association of investigators in bacteriology and allied fields, as many other scientific societies are? Or is it to be an association of practising bacteriologists, laboratory workers, teachers, researchers alike?" Those are good questions. What do we want our Society to be?

Your Secretary can find no better discussion of this subject than the article titled "The Scope of the Society" prepared in 1950 by the late beloved Barnett Cohen, Archivist, President, Editor of *Bacteriological Reviews* and guiding light for many years. Dr. Cohen's statement as published in "Chronicles of the Society of American Bacteriologists 1899-1950" is reprinted here because it deals directly with the two questions referred to above. Please read it carefully.

"The objects of the new society were stated, in the first constitution, to be 'the promotion of the science of bacteriology, the bringing together of American bacteriologists, the demonstration and discussion of bacteriological methods, and the consideration of subjects of common interest'.

"Embodying in this simple declaration is the broad vision held by the founders that 'bacteriology' was destined to represent a fundamental discipline and a liberal science; and that bacteriologists had an embracing and fundamental common interest irrespective of the particular field

of study or application that happened to engage their attention. This was made abundantly clear, a year later, by Professor Sedgwick in his presidential address, "The Origin, Scope and Significance of Bacteriology" (Science, 1901, 13, 121-128). The views expressed by this pioneer in the broader aspects of bacteriology were elaborated in a statement, published in 1902, on the scope and function of the Society, and accepted as its basic policy.

"Professor Sedgwick spoke of bacteriology as a branch of microbiology; and the scope of the young society of bacteriologists spread naturally and imperceptibly into allied phases of microbiology, as may be observed even in the early programs. This development has been encouraged, so that now after the lapse of a half-century, it may fairly be stated that the range of our interest is as much in the field of general microbiology as it is in bacteriology narrowly conceived. To some, this seems an inconsistency that should be corrected by changing the name of the Society and, from time to time, such a change has been discussed informally. Considering, however, the world-wide prestige enjoyed by the Society, its *Journal of Bacteriology* and *Bacteriological Reviews*, and their well-known broad scope, a change in the Society's name seems rather trivial now.

"The necessity or utility of bacteriology as an adjunct to the pursuit of practical applications in many fields is a natural consequence of the essential fruitfulness of the science. This fact, coupled with indifference and the pressure of practical demands, led to the 'handmaiden' concept of the position of bacteriology so widely prevalent, especially in the early days. Another consequence is the great diversity of special interests represented within our membership.

"It is not surprising, then, that certain groups in the young Society found some of its practices to be unnecessarily restrictive. The situation was soon clarified by the following resolution passed at the Ithaca meeting in 1910. 'Resolved, that, while the purpose of this Society is primarily for the advancement of microbiology as a pure science, this must not be interpreted as excluding papers of applied microbiology, which involve fundamental microbiological laws and technical principles, or which embody important discoveries.'

"This interpretation of the Society's objectives laid a satisfactory foundation for subsequent developments and practices. Those interests, or contributions, or novel developments from any field of application, which represented advancements of the science, came to be better accommodated by the establishment of broad divisions and smaller sections in our programs. On the other hand, the narrower, mainly routine, technological

pursuit of established principles, techniques and processes was recognized as the proper field, in general, of specialists in the applied science, a field that could be more satisfactorily accommodated by societies and journals dedicated to the respective specialties.

"To help establish the course of the Society upon its primary objective, eligibility for membership was limited to any person who had conducted and published an original research in bacteriology. The requirement was maintained for the first seventeen years, during which the main function of the organization became well fixed in practice. Attention was now given to the pressure from the increasing numbers of meritorious practitioners and students who might profit from the association, and whose support would help expand the influence and usefulness of the Society, in particular, the impending establishment of the *Journal of Bacteriology*. Accordingly, the qualifications were modified in 1916, and eligibility was extended to any person interested in the objects of the Society, —a provision which has been retained in the Constitution through its several general revisions (1920, 1936, 1946).

"The objects of the Society are now stated somewhat more explicitly than in the original Constitution. They are, 'to promote scientific knowledge of bacteriology and related subjects through discussions, reports and publications, to stimulate scientific investigations and their applications, to plan, organize and administer projects for the advancement of knowledge in this field, and to improve professional qualifications'.

"The Society emphasizes the fundamental scientific interests of all bacteriologists, and it should have the support of every bacteriologist, whatever his or her specialty may be. The continuing vigor and the widening influence of the Society attest to the essential soundness of this principle which is now generally accepted."

When the Society met in Chicago in April of this year two propositions of fundamental and far-reaching importance were presented:

(1) A proposal was made to limit membership to individuals who (a) are interested in the objects of the Society, (b) are professionally engaged as microbiologists or in any field of microbiology or its applications, (c) have had at least four years of academic training beyond the high school grade, or the equivalent thereof, and (d) are, in the opinion of the Committee on Memberships, of good professional and moral repute. Evidently the proponents of this change feel that the Society should no longer admit anyone merely because he is interested in the objects of the Society.

The implications of the proposed changes are obvious. Undergraduate students, some tech-

nicians, and perhaps others who have not had four years of college training "or the equivalent thereof" would be denied membership. Recognizing this, the Council at Chicago approved a motion calling for a plan for "student or associate" membership before any restrictive changes are made.

Of somewhat different nature, but no less simple, is the requirement that the Membership Committee judge the professional and moral repute of applicants. Is this or any committee equipped to pass such judgment?

The basic question before each of us is: Shall we continue to accept anyone who professes to be interested in our Society's objectives, or shall we not? Perhaps each of us could approach an answer by asking the question: Has the Society suffered any from its liberal membership policy?

(2) The second question of major importance stems from a motion approved at the business meeting at Chicago calling for a "study by the Council of the desirability of changing the name of the Society to the Society of American Microbiologists and the name of our journal to the *Journal of Microbiology*.

Dr. Cohen commented briefly on this question in the statement quoted above. There is no question that Society of American Bacteriologists no longer describes us accurately. Likewise the pages of the *Journal of Bacteriology* certainly are not restricted exclusively to work on bacteria. Why, then, shouldn't we change the names so they would more accurately fit?

There are arguments both for and against the change. Many of our members work with organisms that are not bacteria, but are microorganisms. Perhaps they would feel more comfortable in a society of microbiologists. Possibly the broader term would attract other microbiologists who, for reasons of their own, do not wish to affiliate themselves with a society of bacteriologists.

But before we get too enthusiastic about a change let's ask ourselves "Would the benefits be worth the loss?" As Dr. Cohen pointed out, the Society of American Bacteriologists and the *Journal of Bacteriology* carry great prestige throughout the world. Certainly a degree of confusion, if not loss of prestige, would result from the change. Do we, therefore, suffer from living with a misnomer? One point that should not be overlooked, though it is a mechanical one, deals with storing the *Journal of Bacteriology* in our libraries. Changing the name would cause no little confusion because of the practice of shelving journals alphabetically. Those of us who have searched for a certain journal on our library shelves and finally find where it ought to be only to discover that it is filed somewhere else because its name was changed will know what this means.

There may be other considerations on both sides of these questions. Each of us should think about

them carefully before deciding how they should be resolved. The local branches might well consider both questions so their councilors will know how

the members feel. Though they may seem trivial, both of these questions can have far-reaching influence on the future of our Society.

SOCIETY AFFAIRS

PLANS WELL ADVANCED FOR 1959 MEETING

As all of you know, the Eastern Missouri Branch will be our hosts at the Fifty-ninth General Meeting of the Society in St. Louis on May 10 through 14, 1959. The local committees are working hard and are well along in their arrangements.

Headquarters will be at the Sheraton-Jefferson Hotel, although meetings will be held in both the Sheraton-Jefferson and the near-by Statler.

An adequate number of sleeping rooms has been reserved in hotels within easy walking distance of the meeting places. Graduate students can be housed in dormitory facilities of the Statler Hotel at a special rate.

The Smoker and the Banquet will be held in the Sheraton-Jefferson Hotel. Entertainment characteristic of the St. Louis area will be presented at the banquet.

Commercial exhibits will be located on the Mezzanine Floor of the Sheraton-Jefferson in close proximity to the meeting rooms. It is expected that the number of exhibits will exceed that of any previous meeting.

The Hostess Committee is planning a varied and interesting program for the entertainment of visiting wives.

Officers and chairmen of the committees on arrangements are:

<i>Chairman</i>	Nicholas D. Duffett
<i>Vice-Chairman</i>	Frank B. Engley, Jr.
<i>Secretary</i>	Alex C. Sonnenwirth
<i>Treasurer</i>	Harold Hofmann
<i>Banquet and Reception</i>	George F. Reddish
<i>Scientific Exhibits</i>	Theodor Rosebury
<i>Technical Exhibits</i>	Philip L. Varney
<i>History</i>	Moyer S. Fleisher
<i>Hostess</i>	Helen K. Thornton
<i>Information</i>	Irma C. Adams
<i>Publicity</i>	Leonard F. Laskowski, Jr.
<i>Registration</i>	Lucille K. Schulze
<i>Graduate Student Activities</i>	James T. Barrett
<i>Room Reservations</i>	Elmer F. Chafree
<i>Session Rooms</i>	Harrison A. Hoffmann
<i>Round Table Sessions</i>	William A. Hardwick, Jr.
<i>Smoker</i>	Herbert S. Goldberg
<i>Special Meals</i>	Edith M. Rich
<i>Tours</i>	Edwin L. Minard
<i>Transportation</i>	Daniel P. Roman

Make your plans now to attend the 1959 meeting. More details will appear in the January issue of the *News*.

PROGRAM DEADLINES FOR 1959 MEETING

Abstract blanks for submission of papers are included with this issue of the *News*. Abstracts must reach the Chairman of the Program Committee by January 9, 1959 to be considered for the program.

Round Tables can be announced in the Program if the notices reach the Chairman of the Program Committee by December 1, 1959. Round Tables can be organized after this date but it will not be possible to announce them in the program. They can be listed in the April issue of Bacteriological News, however, if the notices reach the Secretary before February 15, 1959.

REPORT OF SOCIETY REPRESENTATIVES TO CONFERENCE ON TEACHER EDUCATION

Dr. Milton J. Foter, Director of the S. A. B. Employment Bureau, U. S. Public Health Service, and Dr. Grant L. Stahly, Assistant Dean, College of Arts and Sciences, the Ohio State University, represented the Society of American Bacteriologists at the 13th Annual Conference on Teacher Education, sponsored by the National Commission on Teacher Education and Professional Standards, National Education Association, held at Bowling Green State University, Bowling Green, Ohio, June 24-28, 1958. The purpose of the Conference was to develop and refine education programs for preparing teachers for the Nation's schools. All segments of the teaching profession—elementary and secondary schools, colleges, public and private schools, state education legal authorities and humanistic and scientific societies were represented. The delegates met for five days and made a cooperative approach and constructive effort to improve the processes for the education of teachers. Every state of the union was represented with approximately 1,200 delegates in attendance. For the first time, representatives of humanistic and scientific societies such as ours were invited as participants.

Thirty-two groups, each consisting of representatives from many different areas, were organized with simultaneous discussion of the problems of teacher education. Broad cultural training and

increased emphasis on subject matter proficiency was stressed, with considerable agreement that there be some decrease in respect to professional education courses. The agenda of the conference included such topics as: (1) the purposes of education; (2) implications for teacher education; (3) elements in the teacher education program—subject matter preparation; (4) professional preparation of teachers.

An important phase of the conference was consideration of the training of high school science teachers. A special symposium was held one evening on the preparation of high school teachers of science and mathematics sponsored by the A.A.A.S. Cooperative Committee on Teaching of Science and Mathematics and the National Academy of Science-National Research Council. The education and preparation of high school teachers of physics, chemistry, biology, and general science were discussed in detail. Our Society should be concerned especially with the training of high school science teachers. Since vocational goals of students are frequently determined in high school, teachers of biology and general science, if acquainted with general bacteriology, may have an important influence in directing their students into bacteriology as a major study in colleges and universities.

Study materials were forwarded to each participant in advance of the conference. A significant amount of the study materials was concerned with the training of science teachers. These materials have been forwarded to Dr. L. S. McClung, Chairman of the Society's Committee on Education.

Representatives of the professional societies were well received at the conference. The discussions between the "academicians" and the "professional educators" were profitable and led to increased respect for each other. It is anticipated that the discussions and cooperative efforts will result in general improvement, both qualitatively and quantitatively, in the training of future teachers. It was not possible in the course of the conference to resolve all of the problems concerned with the training of teachers, and it is expected that future conferences on teacher education will include representation from even a larger number of professional and learned societies.

NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL

As indicated in my recent report to the Council of the Society as representative to the National Research Council it seemed desirable to bring some information to the attention of the membership about the National Academy of Sciences-National Research Council (Academy-Research Council). There are two reasons for doing this. The Academy-Research Council is an exceedingly important national science organization affecting policy and

promoting scientific affairs. There is widespread lack of understanding of its purposes and activities and its potentialities for service to scientists.

The National Academy of Sciences was established in 1863 under charter passed by Congress and approved by President Lincoln to advise the Federal government in scientific matters and to further science generally. The National Research Council of the Academy was also born of a war emergency, that of the first world war in 1916, and made permanent at the recommendation of President Wilson. It was established to foster cooperation among research scientists and to promote the applications of science to engineering, agriculture, medicine, and other arts. The functions of the Academy-Research Council were defined by President Eisenhower in an executive order in 1956. Through the Academy-Research Council the most competent scientists are brought together "to deal with scientific problems and exchange information in furtherance of research." The purpose is twofold, to promote science and to advise the government on scientific matters on request.

It is not a government bureau but is a private organization under government charter. Its support is derived from endowment, contributions, and grants from Federal and state agencies, private industries and foundations, scientific societies, and individuals.

The Academy-Research Council seeks to stimulate scientific investigations, particularly in important but neglected areas, and to coordinate investigations dealing with broad scientific problems. At the recent annual meeting President Bronk mentioned the following as some of the current interests of the Academy-Research Council: the promotion of international activities of scientists without regard to national boundaries; fostering the activities of the constituent societies of the Academy-Research Council; providing facilities for research and teaching; improving the quality of education in science; fostering development of high competence among young scientists; stimulation of research in the fundamental principles of science.

A suggestion of the scope and ramifications of the Academy-Research Council is indicated by the following items selected from the long list of its activities and interests: placement of scientific Hungarian refugees; establishment of the National Science Foundation and the American Institute of Biological Sciences; liberalization of the policies of screening scientists concerned with unclassified research; preparation of critical tables; promotion of the fellowship programs of the National Science Foundation; encouragement of more of the competent young students to prepare for careers in science; preparation of records of scientific manpower; interchange of scientists among foreign

countries for periods of study, to lecture or participate in scientific meetings; promotion of the activities of the geophysical year.

The Academy-Research Council has 8 divisions as follows: Biology and Agriculture, Anthropology and Psychology, Chemistry and Chemical Technology, Earth Sciences, Engineering and Industrial Research, Mathematics, Medical Sciences, and Physical Sciences. There are also some additional boards and committees including the Pacific Science Board, Office of International Relations, and Office of Scientific Personnel.

The Division of Biology and Agriculture has a representative from our Society and some 35 other scientific societies and government agencies. There are many committees in the division which have diverse areas of interest including the following that have direct relations to microbiology: Brucellosis, Animal Health, Agricultural Pests (antibiotic and systemic pesticides, biological control of soil-borne plant pathogens, plant diseases), Photobiology, Developmental Biology, Educational Policies. The members of the Division as a whole meet once annually to learn about the activities of the Division, to discuss the programs, and to present matters of broad scientific interest. At the annual meetings reports are given from the committees and boards that have been active during the year.

A brief report can do little more than indicate the origins, objectives and scope of the Academy-Research Council. It is the national science agency and has important influences on all areas of science in the nation. It operates in the service of scientists and should be known by all to be most effective. Copies of the National Academy of Sciences-National Research Council, Organization and Members can be obtained from the Publications Office, National Academy of Sciences-National Research Council, 2101 Constitution Avenue, Washington 25, D.C. A list of publications of the Academy-Research Council can be obtained from the same address.

ROBERT L. STARKEY
representative to
the NAS-NRC (Agriculture)

HELP!

Have you found at least one new member during 1958. If not, there still is time. Is everyone in your laboratory a member? They ought to be. Tell the nonmembers about the Society and invite them to join. An application blank is enclosed for your convenience and if you need more just drop a card to the Secretary or the Business Office.

Applications and dues received after November 1 will be credited to 1959 and the new members' journals will start with the January issue.

ATTENTION ANALYTICAL MICROBIOLOGY GROUP

Officers elected for 1958-59 are:

Group Chairman: DR. WILLIAM C. ALEGNAI,
Parke, Davis and Co.

Committee Chairmen:

Vitamins: DR. A. C. DORNBUSH, Lederle

Antibiotics: MRS. J. W. SNYDER, Upjohn

Antiseptics and Disinfectants: DR. J. G. ELLIS,
Winthrop

The functions of this section are two-fold: (1) To improve the microbiological procedures used in the analysis of antibiotics, antiseptics and disinfectants, vitamins and growth factors; and (2) to provide a forum, within the framework of the S. A. B., for the discussion of these procedures, and for the interchange of ideas relating to the problems involved.

This year questionnaires were sent to approximately 200 people interested in the analytical group, in hope of obtaining information which might be useful in formulating a program for the 1959 meeting at St. Louis. The response to date has been most gratifying. Persons interested in obtaining a questionnaire may do so by writing to Dr. W. C. Alegnani, Bioassay Department, Parke, Davis and Company, Detroit 32, Michigan.

NEWS AND ANNOUNCEMENTS

SECOND NOTICE

Eli Lilly Award Nominations

Nominations for the 1959 Eli Lilly and Company Award in Bacteriology and Immunology are invited. The award is made annually to a young microbiologist who has performed outstanding research in bacteriology or immunology. To be

eligible the nominee shall be less than 35 years of age on April 30, 1959 (birth date after April 30, 1924).

Pertinent portions of the rules governing the award are quoted below: "The Eli Lilly and Company Research Award is made for the purpose of stimulating fundamental research in bacteriology and immunology in the United States and Canada

by a young man or woman working in a non-commercial research or educational institution. The Award consists of \$1,000 and a bronze medal. In addition, the traveling expenses incidental to conferring the medal are paid.

"For the purpose of this Award, outstanding research is understood to be that which is of unusual merit for an individual on the threshold of his career. The research is not to be judged in comparison with the work of more mature and experienced workers, and in judging various researches, special consideration shall be given to the independence of thought and the originality shown.

"Nominations for this Award may be sent to the Secretary of the Society of American Bacteriologists by an individual qualified in the field of bacteriology and/or immunology except the members of the Award Committee. No person shall send in more than one nomination. At the time of the nomination the nominee must be actively engaged in the line of research for which the award is to be made."

Nominations in *five copies* shall be accompanied by:

1. Brief biographical sketch of the nominee, including month, day and year of birth.
2. List of publications.
3. Specific reference to the research on which the nomination is based.
4. Supporting letters, if possible. (No reprints or manuscripts should be submitted.)

Neither the nominee nor the nominator need be a member of the S.A.B.

All nominations received by January 1, 1959 will be transmitted to the Nominating Committee, whose duties are "to receive nominations transmitted by the Secretary of the Society of American Bacteriologists and take such steps as may seem to it desirable to secure nominations of others deemed worthy of consideration for the Award. Upon the expiration of the time for the receipt of nominations, the Nominating Committee shall transmit the data on all completed nominations to the chairman of the Award Committee."

"The Award Committee shall reach a decision by March 1st of the year that the award is to be made. The first announcement of the award shall be made at the annual meeting of the Society of American Bacteriologists. The recipient of the Award shall be asked to report on his work at the meeting at which the award is to be made. If, in the opinion of the Award Committee, there is no outstanding eligible nominee, the award may be passed and the fund used for a later award."

Send nominations not later than January 1, 1959 to:

E. M. Foster
311 Bacteriology
University of Wisconsin
Madison 6, Wisconsin

Five copies of all materials must be submitted.

If you know a potential winner nominate him or her. Time is flying and January 1 will be here before you know it.

CITATIONS FINALLY READY

Some of you noticed the announcement in the August, 1957, issue of *Bacteriological News* that the Council approved the idea of offering, on behalf of the Society, a "suitable citation" to sponsors of pupils who win prizes for microbiology exhibits at science fairs or contests. After considerable backing, filling, delay and neglect the citations finally are ready. Furthermore, two citations have been printed; one for the sponsor and one for the award winner himself.

Any member of the Society who knows of a youngster who has won a prize for a microbiology exhibit at a science fair or other contest in recent months can write the Secretary (E. M. Foster, 311 Bacteriology, University of Wisconsin, Madison 6, Wisconsin) for details of the awards.

SUMMER COURSES, 1959

The April issue of *Bacteriological News* carried a list of course offerings in bacteriology at 14 educational institutions for the summer of 1958. Departments wishing to list 1959 summer courses in the forthcoming April issue of the *News* should write the Secretary (E. M. Foster, 311 Bacteriology, University of Wisconsin, Madison 6, Wisconsin) before January 1, 1959. A form will be sent to show the information wanted and the form for reporting it.

GOING, GOING, GONE?

Alice in Virusland is going like the proverbial hot cakes. Over 80 copies were ordered within the first two weeks after the August *News* was mailed.

We still have a few copies for the first requests received. Use the order blank on page 19. Better get your copy now before this delightful little book is out of print.

MEMBERSHIP CARDS, TO BE ISSUED

For the first time in your Secretary's memory the Society will issue membership cards on payment of 1959 dues. There are two major reasons for this. Some people seem to prefer a receipt for their dues payment; the card will serve. Of more importance, however, is facilitating registration at our Annual Meeting. In the past it has been necessary to check the membership of each registrant in a card file. Not only is this laborious and time-consuming, it is also difficult to have the card file completely up to date at the time of the meeting.

When you register at the St. Louis Meeting you will merely need to show your membership card, which will prove you're a paid up member for 1959.

As soon as your 1959 dues are recorded in the Business Office your membership card will be mailed to you. Sign it and keep it handy. Be sure and take it with you to the St. Louis Meeting. Your registration will be simplified and the work of the registration committee will be greatly reduced.

While we're on the subject, matters would be further simplified if you would pay your 1959 dues promptly. The Business Office goes to considerable trouble and expense to issue renewal notices to delinquent members. The cost, which comes out of our pockets, could be avoided if all members would pay their dues promptly when billed. If you haven't already done it won't you mail your check today?

7th INTERNATIONAL CONGRESS FOR MICROBIOLOGY AND THE I.A.M.S.

Practically every issue of *Bacteriological News* for the past two years has carried information about the 7th International Congress for Microbiology held in Stockholm, Sweden, August 4-9 of this year. This should be just about the last item as we start preparing for the 8th Congress in 1962.

The United States and our Society certainly were well represented at the Stockholm meeting. According to the list of members, about 275 Americans were there as active members, with many wives or husbands carried on the rolls as "passive" members. Everyone to whom your Secretary spoke was very favorably impressed with the excellent arrangements made in advance of the Congress by the host group, the Swedish Microbiological Society. The organizers of the Congress thought of everything, it seemed, and those of us who were fortunate enough to attend will always remember a delightful and worthwhile meeting.

Some members may not know the relationship of our Society to the quadrennial International Congresses for Microbiology. Ours is one of 31 national societies that comprise the International Association of Microbiological Societies. One of the chief functions of this Association is to sponsor the Congresses. To some extent analogous to our own annual meetings, the Association meets at the invitation of one of the constituent societies, which serves as the host group and organizes the Congress.

The business of the Association between Congresses is conducted by an Executive Committee. At each Congress, however, delegates from the member societies to the I.A.M.S. hold one or more meetings to conduct business. At Stockholm our Society was represented by Dr. Harry Eagle, Dr. J. R. Porter and your Secretary in addition to Dr. Stuart Mudd, our representative on the Executive Committee. Several decisions of interest to

our Society's members were made by the delegates at Stockholm.

(1) Dr. Stuart Mudd was elected president of the I.A.M.S. for the next four years. Dr. Mudd has been our representative to the I.A.M.S. at the Congresses in Rio de Janeiro, Rome and Stockholm and during the intervening years, and has served as a Vice President on the Executive Committee for the past five years. He replaced Sir Macfarlane Burnet, who was elected president at the Rome Congress in 1953. Other officers elected at Stockholm were: Dr. A. A. Miles (Great Britain), Vice President; Dr. G. Penso (Italy), Vice President; Dr. C. G. Hedén (Sweden), Secretary General; and Dr. Maurice Welsch (Belgium), Treasurer.

(2) The invitation of the Canadian Microbiological Society to organize the 8th Congress was accepted. The Congress will be held in Montreal August 19-26, 1962.

(3) Up to now the I.A.M.S. has had no funds to support the activities of the Executive Committee. It was decided to ask the member societies to contribute to this purpose amounts related to their memberships.

(4) The Subcommittee of Editors of Microbiological Periodicals, under the chairmanship of Dr. J. R. Porter, recommended, and the delegates approved, the appointment of an international Committee on Microbiological Documentation within the I.A.M.S.

(5) Approval was given to the Judicial Commission on Bacteriological Nomenclature acting as advisors to the Executive Committee of I.A.M.S. with respect to the allocation of funds to culture collections.

(6) The six Symposia of the Congress will be published in a volume which should be distributed early this winter to all active members of the Congress. The subjects included are:

- I. Recombination mechanisms in bacteria.
- II. Role of protein in nucleic acid synthesis and role of nucleic acid in protein synthesis.
- III. Tissue specific antibodies.
- IV. Latent and masked virus infections.
- V. Germ-free animals.
- VI. Continuous culture methods and their application.

It is planned also to publish the Statutes of I.A.M.S., Presidential addresses and the actions taken at the Congress in the Symposium volume.

Orders by other than active members of the Congress for the Symposium volume and for the abstracts of the contributed papers may be placed with the Swedish publishers, Almqvist & Wiksell, Boktryckeri Aktiebolag, Uppsala, Sweden.

While we're on the subject of the Congress your Secretary would like to acknowledge the help of the Office of Naval Research in supporting his travel to Stockholm as well as that of the Editor of the *Journal of Bacteriology* (among others).

With the help of O. N. R., Eli Lilly and Co., and the National Institutes of Health, the expense to the Society for sending its official delegates to the meeting of the International Association of Microbiological Societies was almost nothing.

REPORT OF B.N. SURVEY

Almost 500 members returned the questionnaire published in the August *Bacteriological News*. This number represents nearly 10% of the membership which, in view of the early deadline established, probably is as good as one could expect. Incidentally, the September 15 deadline was essential for a report in this issue.

As Mr. Gallup and other pollsters have learned, one cannot always predict with complete accuracy the feelings of a large number of people from a small sample. If the opinions of the 485 people who replied are indicative of the majority, however, it is apparent that there is no overwhelming dissatisfaction with any single feature of the *News* as it now appears.

Before summarizing the results it might be well to correct one impression. In conducting the poll it was not your Secretary's intention to suggest that the *News* should or must be eliminated, reduced in size or coverage, or that it is in financial difficulty. His purpose merely was to see if any feature of the publication is generally unpopular. If so, it might be eliminated to save the cost and labor of preparation.

One result of the poll showed clearly that the great majority of respondents (458 out of 475 who indicated a choice) would be satisfied with photo-offset printing from typewritten copy. Moreover, about 2 out of 3 would retain quarterly publication even if typewritten composition were used. Thus, there seems to be no ground swell of sentiment for more frequent publication.

As judged by the replies the least popular feature of the *News* is the book review section, although even here well over half the respondents favored continuation of book reviews. Of those who suggested that reviews be eliminated, 4 out of 5 preferred that new books be listed. Clear majorities favored retention of news items from local branches, reports of local branch meeting programs, committee reports, reports from the Secretary, and news about our members. There would seem to be no reason, therefore, to eliminate these features.

Your Secretary appreciates the expressions of the 175 people who responded to the invitation to suggest ways of improving the *News*. Whereas some people were rather critical, others were quite well pleased, which simply supports the statement that one can't please all of the people all of the time. Nevertheless, many excellent suggestions were made and every effort will be made to im-

prove future issues. In the meantime, suggestions are always welcome.

News items are welcome too. *Bacteriological News* is what the members make it. If you know something that will interest the membership, send it to the Secretary.

SUSTAINING MEMBERS RENEWED

Members will be glad to know that the following firms have expressed their continued interest in bacteriology by renewing their sustaining memberships for 1958. Their names should be added to the list published in the August issue.

Becton Dickinson and Company
Eli Lilly and Company
Norwich Pharmacal Company
(formerly Eaton Laboratories)
Parke Davis and Company

DEADLINES FOR N.S.F. RESEARCH GRANT REQUESTS

The Division of Biological and Medical Sciences of the National Science Foundation announces that the next closing date for receipt of basic research proposals in the Life Sciences is January 15, 1959. Proposals received prior to that date will be reviewed at the Spring meetings of the Foundation's Advisory Panels and disposition will be made approximately four months following the closing date. Proposals received after the January 15, 1959, closing date will be reviewed following the Spring closing date of May 15, 1959.

Inquiries should be addressed to the National Science Foundation, Washington 25, D. C.

NOTICES

U. S. Civil Service Commission has announced vacancies for bacteriologists, serologists and biochemists in the Veteran Administration at levels of GS-7 to GS-13. Applications must be filed with the Board of U. S. Civil Service Examiners, Veterans Administration, Washington 25, D. C.

Journal and Reviews for sale. W. E. Botwright, 124 Woodlawn Ave., Merchantville 8, N. J. (1938-1944; 1947-1958); M. E. Becker, 8617 Midi Ave., Baltimore 14, Md. (1947-1956).

Move at Nebraska. The Department of Bacteriology of the University of Nebraska has moved into its new quarters, the third floor of Lyman Hall, which building it shares with the College of Pharmacy. The new location gives the department about 2½ times the space it occupied in the biology building, Bessy Hall.

Who's interested in psychrophiles? As an outgrowth of a round-table discussion on psychrophiles at the S.A.B. meeting in Chicago, an attempt is being made to assemble more information on microorganisms that grow at low temperatures. Toward this end, a questionnaire has been com-

piled and will be sent to anyone interested in the subject. A copy of the assembled results will be sent to all those who return the data sheet.

If you are interested in this group of microorganisms and have not received a copy of the survey form, send a card or letter to: Dr. John A. Alford, Meat Laboratory and Development Division, U. S. Department of Agriculture, Beltsville, Maryland. A copy will be sent to you.

Postdoctoral Study in Statistics. Awards for study in statistics by persons whose primary field is not statistics but one of the physical, biological, or social sciences to which statistics can be applied are offered by the Department of Statistics of the University of Chicago. The awards range from \$3,600 to \$5,000 on the basis of an eleven month residence. The closing date for application for the academic year 1959-60 is February 16, 1959. Further information may be obtained from the Department of Statistics, Eckhart Hall, University of Chicago, Chicago 37, Illinois.

NEWS ABOUT OUR MEMBERS

Earl R. Stadtman, Chief, Section on Enzymes, Laboratory of Cellular Physiology, National Institutes of Health, Bethesda, Maryland has been appointed Visiting Lecturer in the Department of Microbiology at the University of Maryland, College Park, Maryland.

Sidney Cohen, formerly at Beth Israel Hospital in Boston, has been appointed head of the Microbiology Department of the Michael Reese Hospital Medical Center's Research Institute in Chicago.

E. J. Hehre has been named to the Committee

on Monographs by President Harry Eagle. (The other members of the committee were named in the August issue of the *News*.)

R. Wayne Shober, Fort Detrick, has been given the Army Sustained Superior Performance Award in recognition of his excellent supervisory work. In addition to a certificate Mr. Shober received a cash award of \$200.00.

Richard Morita has joined the staff of the Department of Bacteriology of the University of Nebraska as Assistant Professor after three years at the University of Houston. Dr. Morita fills the post made vacant by the resignation of Dr. Hilliard Pivnick, who joined the staff of the Bick Pickle Company of Ontario, Canada.

John Y. Sugg has been named to the Committee on Education by President Eagle. (See August 1958 issue of the *News* for others on the committee.)

James E. Ogg, formerly with the Biological Warfare Laboratories, Fort Detrick, Maryland, has joined the Department of Pathology and Bacteriology, Colorado State University as an assistant professor.

Edwin H. Lennette, Chief of the Viral and Rickettsial Disease Laboratory, California State Department of Public Health has been appointed Chairman of the newly established Board of Scientific Counselors of the National Institute of Allergy and Infectious Diseases.

Willis A. Wood, Chairman of the Nominating Committee for the Eli Lilly Award, has moved from the University of Illinois to Michigan State University, where he is Professor of Agricultural Biochemistry.

LOCAL BRANCH ACTIVITIES

NEW YORK CITY BRANCH FACES ITS PROBLEMS

At least part of the problems of our Society are traceable to our size and the diversity of interests of our members. It is doubtless true that the more members we have the harder it is to satisfy them all.

Our largest local branch faces this problem and is trying to do something about it. The August *Newsletter* of the New York City Branch gives the number of members as over 800. There seems to be a feeling that at least some of these members would like more coverage of their specific interests in the programs of the branch. As a result, a questionnaire has been sent to each person in an effort to find out what subjects and types of programs the

members want. Maybe other branches would like to try this approach.

One distressing feature of the membership of the New York City Branch is true of all, but especially those in large metropolitan centers—that is the high proportion of non-S.A.B. members. According to the published figures, only about one-third of the members of the branch also belong to the Society.

By the same token, less than half of the S.A.B. members residing in New York City belong to the local branch. Surely we all agree this is not as it should be. All of us, wherever we live, should actively support our local branch programs. The local branches are the very foundation of the Society. We in the S.A.B. must work actively at the local level if we want our science and our Society to flourish.

NEW BRANCH OFFICERS FOR 1958-59

Missouri Valley Branch:

President: V. D. Foltz, Kansas State College, Manhattan.

Vice-President: L. L. Gee, Oklahoma State University, Stillwater.

Secretary-Treasurer: John O. Harris, Kansas State College, Manhattan.

Councilor: C. E. Georgi, University of Nebraska, Lincoln.

New Jersey Branch:

President: R. E. Bennett, E. R. Squibb and Son, New Brunswick, New Jersey

Vice-President: Frederick Kull, CIBA Pharmaceutical Company, Summit, New Jersey

Secretary: Clarence Hubbard, Carter Products Co.

Treasurer: Leonora Pugh, Institute of Microbiology, Rutgers University, New Brunswick, New Jersey

REPORTS FROM LOCAL BRANCH MEETINGS

Intermountain Branch (Paul B. Carter, Secretary-Treasurer) June 17, 1958, Utah State University, Logan, Utah.

1. Increased susceptibility to vesicular stomatitis virus in mice subjected to avoidance-learning stress. Marcus M. Jensen, James T. Marsh and A. F. Rasmussen, University of California, Los Angeles, California.

2. Antibody response to Salk vaccine in infants and young adults. Pamela H. Byatt, Phyllis Wright, and A. F. Rasmussen, University of California, Los Angeles, California.

3. Typing of staphylococcal isolates from turkey epizootics. William R. Thornley and W. W. Smith, Dugway Proving Ground and Utah State University.

4. Microphotographic and microcinematographic screening methods for steroid hormone effects on leukemic cells. Gottlieb L. Schneebeli and Thomas F. Dougherty, University of Utah.

5. Determination of the protective immunogenic properties of *Pasteurella tularensis* broth culture filtrates and lysate preparations. Paul S. Nicholes and Melvin T. Hatch, University of Utah.

6. Tularemia skin test reactions in wild rodents. David Lundgren and Nyven Marchette, Ecological Research, Dugway Proving Grounds.

7. Attempts to fractionate and purify active immunogenic substances contained in *Pasteurella tularensis* broth filtrates and lysate preparations by employing ion exchange resins. Melvin T. Hatch and Paul S. Nicholes, University of Utah.

8. Delayed lethal effects due to aerosolization of *Pasteurella tularensis*. J. N. Adams, J. S. Turpin, A. P. Dufour, and V. J. Cabelli, Dugway Proving Grounds.

9. Depression of normal serum bactericidal activity by nitrogen mustard. Morgan L. Miller and David M. Donaldson, Brigham Young University.

10. Isolation of partially purified properdin using cold ethanol fractionation. Fred Miya and Stanley Marcus, University of Utah.

11. Cellular factors in specific resistance to acute bacterial infections. Eugene Perkins, Fred Miya, and Stanley Marcus, University of Utah.

Missouri Valley Branch (John O. Harris, Secretary-Treasurer)

April 11-12, 1958, Kansas State College, Manhattan, Kansas. Dr. Charles Ehret, Argonne National Laboratory, spoke at the evening session on "The Cell, Nucleus and Organelle." Papers given at the two half-day sessions follow:

1. The 4th Inter American Congress on Brucellosis, Lima, Peru. Charles A. Hunter, Division of Public Health Laboratories, Kansas State Board of Health, Topeka, Kansas.

2. Experiments on the isolation of Asian strain influenza virus by allantoic sac inoculation of chick embryos. Yau Wai Wong, Herbert Beauchamp and Charles A. Hunter, Division of Public Health Laboratories, Kansas State Board of Health, Topeka.

3. *Haemophilus influenzae* in 'viral' upper respiratory illness. Dennis Carr and E. C. Dick, University of Kansas, Lawrence.

4. Metabolism of formate during the methane fermentation. L. R. Fina, Kansas State College, Manhattan.

5. Studies on the mechanism of DPN-adduct formation. J. M. Akagi and D. Paretzky, University of Kansas.

6. Growth of *P. tularensis* in mononuclear cells from resistant and nonresistant animals. Helen McElree, University of Kansas.

7. A study of the relationship between thermostability of poliovirus and its response to cystine for plaque development. George R. Dubes and Margaret Chapin, University of Kansas Medical Center, Kansas City.

8. An additional hypothesis for the mechanism of action of some chemotherapeutic compounds. D. Paretzky and A. L. Guardiola, University of Kansas.

9. Attempts to eliminate *Salmonella* from fresh egg white by biological means. Reid S. Flippin and M. N. Mickelson, Midwest Research Institute, Kansas City.

10. Isolation and identification of feline panleucopenia virus in tissue culture. Marvin K. Nadel and L. G. Eaton, Research Laboratories, Inc., St. Joseph, Mo.

11. Studies on the pigment fractions of prodigiosin. Joseph Poerio and T. H. Lord, Kansas State College.

12. Some aspects of the nutrition of *Micro-*

coccus lysodeikticus. S. K. Luk and E. A. Grula, Oklahoma State University, Stillwater.

13. The influence of substrates on the induced biosynthesis of bacterial enzymes. N. N. Durham and Dixie L. McPherson, Oklahoma State University, Stillwater.

14. Cell size as related to nutrition in a species of *Erwinia*. E. A. Grula, Oklahoma State University, Stillwater.

15. The effect of stilbestrol on the oxidation of succinate by *Aerobacter aerogenes*. Margie D. Perry and N. N. Durham, Oklahoma State University, Stillwater.

16. Mycobacterial bacteriocins. E. C. Mora, Kansas State College.

17. The effect of vanadyl ion on the growth of *Mycobacterium tuberculosis*. Richard L. Costello and Loyd Hedgecock, University of Kansas Medical Center and Veterans Administration Hospital, Kansas City.

18. A preliminary study to determine the susceptibility of *Moraxella bovis* to selected antibiotics and sulfonamides. Olin Kliewer, Oklahoma State University, Veterinary Research Institute, Pawhuska.

19. Microscopic slide flocculation and macroscopic tube flocculation tests for pullorum disease and a comparison of them with the tube agglutination test. Edward P. Roznowski, Jr. and V. D. Foltz, Kansas State College.

20. The enzyme specificity of steroid oxidations. N. N. Durham and V. F. Altieri, Oklahoma State University, Stillwater.

21. Investigation of the yeast flora in human feces including a study of the pathogenicity of *Candida spp.* for mice. T. Jensen and V. L. von Riesen, University of Kansas Medical Center, Kansas City.

22. Transformylation in rickettsiae. W. F. Myers, D. Paretsky and C. M. Downs, University of Kansas.

23. Some additional observations on growing

rickettsiae *in vitro*. R. A. Consigli, D. Paretsky, and C. M. Downs, University of Kansas.

24. High tissue culture passage (141) of infectious bovine rhinotracheitis as an immunizing agent. L. G. Eaton and Marvin K. Nadel, Research Laboratories, Inc., St. Joseph, Mo.

Rio de Janeiro Branch (Vinicius M. Dias, Secretary-Treasurer) June 21, 1958. A joint Meeting was held at the Drug and Medicament Center with the Rio de Janeiro Section of the Brazilian Society of Microbiology.

1. Comparative studies on the efficiency of selective, indicator, and enrichment media used for the isolation of pathogenic enterobacteria. Gobert A. Costa, Achilles Scorzelli Jr., Ivone R. Suassuna, Italo Suassuna, and Paulo de Goes, Instituto de Microbiologia da Universidade do Brasil.

2. Differentiation between *Listeria monocytogenes* and *Enyssipelothrix rhusiopathiae*. Genesio Pacheco and Vinicius M. Dias, Instituto Oswaldo Cruz, Ministerio da Saude.

3. Caprine brucellosis in Northeast of Brazil, Milton Thiago de Mello and Genesio Pacheco, Instituto Oswaldo Cruz, Ministerio da Saude.

South Central Branch (Harold Baer, Secretary-Treasurer) March 29, 1958, Southwestern Louisiana Institute, Lafayette, La.

1. Eastern Equine Encephalitis in the Canada Goose. Calvin Page.

2. The Plum Island Animal Disease Laboratory. George T. Dimopoulos.

3. Viability of Newcastle Disease virus in milk. J. T. Fletcher and V. W. Greene.

4. Quality Control studies on milk. W. Manuel, A. T. Courville, and V. W. Greene.

5. Factors affecting the colonization of *Methanomonas methanoxidans*. L. R. Browne and R. J. Strawinski.

6. Studies on an enzyme isolated from *B. fulminans* that specifically destroys blood group O activity. Harold Baer and Ingeborg Naylor.

BOOKS AND REVIEWS

✓ *Microbiology*, M. J. Pelczar, Jr. and R. D. Reid, New York: McGraw-Hill Book Co., 1958, 564 pp., \$8.00.

✓ *Advances in Enzymology*, Volume 20, F. F. Nord, Editor, New York: Interscience Publishers, Inc., 1958, 488 pp., \$12.50.

✓ *The Chemistry and Biology of Yeasts*, A. H. Cook, Editor, New York: Academic Press, Inc., 1958, 762 pp., \$22.00.

This book represents a courageous undertaking for it covers an enormous area and a great di-

versity of material in 664 pages. Early chapters are devoted to the biology of yeast including outlines of classification, ecology, life histories and genetics. Subsequent chapters deal with chemical aspects including chemical composition, metabolism, and enzyme mechanisms. Final chapters are included on technology, pathogenic forms, food spoilage and flocculation. The various chapters were prepared by authorities in their respective fields and in most instances are thorough and well written.

Most of the chapters cover the literature exceedingly well. So much is included, however, that the large amount of material could only be discussed in a brief manner. This book, therefore, will serve as an excellent source of reference material and will be of value as such to anyone who is even remotely concerned with yeast. Without doubt it should be in departmental and industrial and private libraries of workers in the field of yeast. It would not, however, serve as a text book for a course concerned with yeast.

One wonders if the book might have been divided into two or three volumes so that separate parts might be expanded and made more useful to the student as well as to the research worker. For example, the chapters on classification of yeast, ecology, life cycle, genetics, composition, growth, and technology might have been included in a single volume. Such a volume would fill a greater need than the present composite book. The portions concerned with physiology could very well have been included in another volume, although much of this material is available in a number of excellent books on microbiology. The parts relating to biology, however, fill a real need for this material is not available in such satisfactory form in any other book. A single volume in this area, therefore, would be exceedingly useful.

The table of contents and subject index are inclusive and useful to the reader. Indeed this is a book that fills a great need and one that can be recommended as a reference work for anyone in the field of microbiology.

EMIL M. MRAK

Topics in Microbial Chemistry, F. M. Strong, New York: John Wiley and Sons, Inc., 1958, 166 pp., \$5.00.

For every scientist who follows the week by week developments that invariably ensue from the discovery of new compounds displaying remarkable biological properties, there must be perhaps a hundred on the sidelines who cannot keep up with the fast-breaking fields. Consequently, a summary of such specialized topics is not only a boon; it is a necessity. I should imagine that graduate students and teachers in microbiology and biochemistry will be the main beneficiaries of this fact-packed little handbook, representing invitational lectures by Dr. Strong of the University of Wisconsin delivered at Rutgers University's Institute of Microbiology. Each of the three chapters covers a topic quite unrelated to the others; the unifying feature which is the backbone of the book is the chemical rationale employed in the isolation, structure determination, and properties of the antibiotic substance antimycin, of coenzyme A and related substances, and of kinetin and kinins. Since Dr. Strong has been a leader in the first and third of these subjects, and made significant con-

tributions to the second, the authoritative nature of the treatment given the subjects is apparent.

This is the third of the Rutgers lecture series to be published, and a pattern is discernible, the merit of which warrants examination. In general, practically all the subject matter in these books has been previously published in the usual scientific journals (in many cases long ago—Dr. Strong's lectures took 2 years to get published), and in most cases has even been covered in review articles. For the most part, the coverages in these little books chronicle the contributions of the lecturers' laboratories; hence, as fields, the treatment of subject matter lacks comprehensiveness and a perspective. Most readers will experience a letdown after reading these volumes, upon realizing that the diet is long on old and rewarmed technical details and short on nourishing syntheses of ideas and critical evaluations that are the essence of microbiology at the intellectual level. The latter is a conspicuous niche in Microbiology that urgently needs filling and which would be a fine goal for and service by the continuing Rutgers series; with imagination, they could be developed into something of an institution in Microbiology. As an illustration and perhaps a model of what can be aspired to, one can cite the Prather lectures by Kluyver and van Niel given at Harvard a few years ago and published as a comparable handbook under the title "The Microbe's Contribution to Biology."

Another thing disturbing to this reviewer, is the indication that these little specialized books are being priced out of the reach of those who should acquire them, thus defeating the chief value they have, namely, convenience.

The efforts of the Institute of Microbiology at Rutgers, and of the industrial sponsors of these publications, to project a service to the science of Microbiology over the Institute's imprint is laudable, to be sure. It is hoped that this zeal will aim for something fresher, evocative and essential.

J. W. FOSTER

The Strategy of Chemotherapy, S. T. Cowan and E. Rowatt, Editors, New York: Cambridge University Press, 1958, 360 pp., \$7.00.

This volume, the eighth symposium of the Society for General Microbiology, is another tribute of the policy of the English society in selecting controversial topics for their annual symposium. From the success of this and the previous symposia, the Society of American Bacteriologists might well benefit by adopting similar procedures.

As suggested by the title, the 16 pages of this volume covers the spectrum of approaches from trial and error selection of antibiotics to the designing of metabolite analogues. The first two thirds of the papers deal with possible methods by which microbes in general may be attacked while

the last third deal with particular problems set by groups of microorganisms or factors introduced by the host. In most cases the authors have attempted to provide a biochemical basis in explaining the selective action of the various agents.

Woods and Tucker introduce the symposium with a discussion of general tactics: diverse interactions of chemical substances with biological systems. The authors, emphasizing the need to utilize the qualitative and quantitative differences in biochemical behavior of host and invader, established the basis for the subsequent contributions. This principle is well documented in discussion of inhibitors of energy-supplying reactions by Krebs, specific inhibitors of protein synthesis by Gale, and selective inhibition of virus multiplication by Tamm. As would be expected in a discussion of chemotherapy, the volume includes chapters by recognized specialists on antibiotics, antimetabolites, surface-active bactericides, metal binding agents, synergism and the chemotherapy of bacterial, fungal, protozoal and amoebal infections.

Students of chemotherapy will be interested in the development of several new approaches to the problem. One of the more promising possibilities, that of selective inhibition of bacterial cell-wall synthesis is discussed by Park. A second dealing with specific permeation or transport systems, is discussed by Mitchell as well as other authors of the symposium. Lastly the principal of lethal synthesis as a method of chemotherapy is treated by Markham.

Microbiologists will find this a useful source not only for information on chemotherapy but also on basic cell metabolism. As a result of emphasis on the latter, the reader is left with a renewed confidence in the rational approach to chemotherapy.

HARLYN HALVORSON

Methods of Biochemical Analysis, Volume 6, David Glick, Editor, New York: Interscience Publishers, Inc., 1958, 358 pp., \$8.50.

This volume is the most recent of a series of reviews devoted exclusively to the analytical methods employed in biochemistry. In addition to the historical and critical aspects usually covered in reviews, the chapters of "Methods of Biochemical Analysis" are supposed to provide details of specific methods sufficient to enable the laboratory worker to carry out the analyses. The topics included in this volume are: New developments in the chemical determination of nucleic acids, by J. M. Webb and H. B. Levy; The microbiological assay of nucleic acids and their derivatives, by H. K. Miller; The determination of formaldehyde and serine in biological systems, by W. R. Frisell and C. G. Mackenzie; New methods of purification and separation of purines, by F. Bergmann and S. Dikstein; Assay of serotonin and related metabo-

lites, enzymes, and drugs, by S. Udenfriend, H. Weissbach, and B. B. Brodie; Determination of transaminase, by A. J. Aspen and A. Meister; Glycolipide determination, by N. S. Radin; Methods for the determination of thiamine, by O. Mickelsen and R. S. Yamamoto; Rapid electrophoresis in density gradients combined with pH and/or conductivity gradients, by A. Kolin; and Determination of hexosamines, by S. Gardell. Author and subject indices for this volume as well as cumulative indices for volumes 1 to 6 are included.

The review functions are adequately covered as attested by the bibliographies at the end of each chapter. The details of the recommended analytical procedures are ample and well-supported by critical discussion. They serve well to summarize the current status of each of the topics. The chapter on rapid electrophoresis is an exception because it neither provides a general review of electrophoresis (too few papers seem to have appeared on rapid electrophoresis to warrant a review) nor sufficient details of the methods. In general, however, this volume seems worth its modest cost since equivalent information on any of the subjects covered would cost much more in terms of a personal search of the literature.

T. B. PLATT

Research in Photosynthesis. H. Gaffron and others, Editors, New York: Interscience Publishers, Inc., 1957, 524 pp., \$12.00.

This book records the papers and discussion presented at the Gatlinburg Conference, October 25-29, 1955. The time lag between presentation and publication decreases the impact of the papers somewhat in an active field such as photosynthesis. However, the difficult job of editing a book of this type has been well done, and inclusion of discussion has aided greatly in capturing the spirit of the meetings and in giving the reader a critical evaluation of the presentations. The discussions are uniformly interesting and often are spiced with sharp controversy.

The formal papers are numerous, short and in the form of new contributions rather than reviews. This results in some lack of integration, but is more than compensated for by the authenticity conveyed by individuals speaking on their specialties.

The book excludes coverage of the quantum requirement of photosynthesis and the process of CO_2 reduction to concentrate on less thoroughly explored aspects of photosynthesis. Parts I and II on Absorption, Fluorescence, Luminescence and Photochemistry, *in vitro* and *in vivo* have a strong physical slant. Part III on the possible role of cytochromes will be of greater interest to microbiologists, for much of the work is concerned with photosynthetic bacteria. This section of the book is especially interesting because the subject had

been opened actively a year earlier by the work of Duysens. This book presents a more complete report of experimental work and speculation on the cytochromes in photosynthesis than any other publication; to be sure, the speculation today would be more restrained than in 1955.

Part IV concerns Dark Reactions and includes sections on fixation of CO_2 , photoreduction, reactions in chloroplasts and cell extracts and phosphate metabolism. The last section includes work with the sulfur bacteria. Part V on Kinetics, Transients and Induction Phenomena reviews the complex gas exchanges which occur upon transfer of plants between light and dark conditions. Part VI on Formation and Condition of Chlorophyll in the Living Cell includes the announcement by J. H. C. Smith and coworkers of their success in converting protochlorophyll holochrome to chlorophyll holochrome in an isolated system. The biosynthesis of chlorophyll precursors also is discussed.

R. H. BURRIS

Manometric Techniques, Third Edition, W. W. Umbreit, R. H. Burris and J. F. Stauffer, Minneapolis: Burgess Publishing Co., 1957, 338 pp., \$6.50.

The earlier editions gained wide usage as evidenced by their frequent appearance in the bibliography of papers dealing with manometry published in the last ten or twelve years. The reviewer is quite sure that the third edition will be as well received.

The basic material found so useful by many a beginner, and "expert", in the second edition has not been appreciably altered except to bring it up to date and occasionally change the order of the material.

In addition to the several chapters devoted to manometry, preparation of tissues and special techniques, two entirely new chapters have been added.

The first of these, chapter 13, is on colorimetry and spectrophotometry. This chapter by Dr. Stauffer replaces a few paragraphs on colorimetry found in the second edition. This chapter was prompted, as the authors say in their introduction, by "... a steadily increasing use of spectrophotometric methods". The chapter deals mainly with basics, leaving specific determinative methods to be found where they arise in other chapters. Most of them are found either in the chapter on "Chemical Methods" or the chapter on "Methods for the Analysis of Phosphorylated Intermediates".

The second entirely new chapter is "Design of Chromatographic Procedures". Here Dr. M. J. Johnson presents chromatography with enough general mechanics of chromatography to be useful. He has relegated the theory, for those interested, to an appendix to his chapter. It is believed, how-

ever, that reference to the literature for specific methods and specific compounds or systems would not have been out of place in a manual otherwise very useful in the laboratory.

Another useful addition has been a section on measurement of radioactivity dealing with characteristics of a Geiger tube, self-absorption, coincidence loss, correction of observed counts and statistical error in counting.

It is believed by the reviewer that no bacterial physiology laboratory should be without access to this volume.

If it is better for a book to wear out than "rust" out I am sure that most copies of this volume will "go the way of all good books".

ROBERT M. PENGRA

Listeriosen (Symposium), E. Roots and D. Strauch, Editors, Berlin: Paul Parey, 1958, 116 pp., \$3.34. (Can be ordered through Walter J. Johnson, Inc., 111 Fifth Ave., New York 3, N. Y.)

This is a compilation of proceedings of the Symposium on Listeriosis held June 27-28, 1957, at the Veterinary Hygiene Institute, Justus Liebig University, Giessen, Germany. In addition to the complete texts of the 11 principal papers which cover all phases of the bacterium *Listeria monocytogenes* and the diseases caused by it, there are discussions by more than 15 other participants from several different countries; giving a broad and many-sided view of the subject. This is one of the most complete presentations dealing with this bacterium and the book contains much information which might otherwise not have found its way into print. Although most of the papers and discussions are in German, there are rather complete English summaries and great wealth of bibliographic material. There is a considerable amount of new material presented, some of which although circumstantially convincing, is still quite controversial. This is especially true for serological evidence that *L. monocytogenes* may be responsible for such conditions as retarded mental development in children who may have suffered an inapparent perinatal infection, chronic central nervous system disorders of adults and the so-called habitual abortion. Because of the conflicting views, the discussion in this section makes very interesting reading and emphasizes that our knowledge of listeric infections is by no means complete. Contrary to the present concept that listeriosis in man is primarily a disease of the central nervous system, it is shown emphatically that perinatal listeriosis accounts for more than 75% of the number of cases reported. Experimental studies on pregnant animals reveal the uterine contents of pregnant women or animals are highly vulnerable to attack by this bacterium. With the exception of perinatal

listeriosis and listeriosis in animals, the broad spectrum antibiotics have greatly reduced the mortality due to infection. Although in the past listeriosis was regarded as a highly fatal infection, newer findings on both naturally and artificially infected subjects suggest that inapparent infections are more common than is suspected and that *L. monocytogenes* may be responsible for a flu-like syndrome resembling infectious mononucleosis, common sore throat, and superficial skin abscesses. The possible relationship of *L. monocytogenes* to

true infections mononucleosis remains obscure. The accumulated evidence shows that listeric infections are not rare, but rather that listeric infections are not recognized. This results from a lack of awareness of the bacterium; the ease with which it may be confused with some of the other common gram positive pathogens; confusing its identity with diphteroids; and the difficulty of isolating it from certain animal tissues with the consequence that the culture is reported as negative.

M. L. GRAY

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